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ABSTRACT

This paper discusses diverse approaches to be used in assessing student achievement in geography. Criterion-referenced tests (CRT) are generally developed at the state level, and 48 of the 50 states have some form of CRT. As a result, objectives for teachers to use in teaching geography have been written at the state level, and the CRT is aligned with these objectives. Points to check in assessing the quality of the CRT are outlined. Some states use standard tests to measure student achievement in geography, but this may result in an emphasis on learning selected facts for the test. Teacher-written test items may well measure cognitive achievement in geography beyond the mere recall of factual information. Another useful approach is the use of portfolios, for which each student, with teacher guidance, may develop a portfolio to show progress and achievement. The scope of the portfolio can be much greater than that of standardized tests and CRTs. (SLD)

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# Assessment, Geography, and the Student

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## ASSESSMENT, GEOGRAPHY, AND THE STUDENT

It is important to assess learner achievement in geography to ascertain how much each has learned. Whether geography is taught as integrated with the social studied or as a separate academic discipline, students need to reveal if there has been adequate achievement. Then too, the teacher may gauge his/her effectiveness in teaching when observing student progress in geography. The author will not go into the pros and cons of the integrated versus the separate subjects approach other than to say he has taught geography using both approaches. While teaching two years on the West Bank in the Middle East, he taught geography as a separate subject on the high school level. In the states, the author taught geography as an integrated discipline in the social studies on the elementary/middle school levels. As a university professor, he has taught graduate and undergraduate courses in teaching social studied with geography being considered as a vital subject matter area. This paper will discuss diverse approaches to be used in assessing student achievement in geography.

### Criterion Referenced Testing (CRT

CRTs are generally written and developed on the state level. Forty-eight of the fifty states in the union have some form of CRT. Thus, objectives for teachers to use in teaching geography have been written on the state level. The CRT is aligned with these objectives to provide for validity. Thus, the CRT measures student achievement as thy relate to mandated objectives in the geography curriculum. What should a teacher/school administrator look for when assessing the quality of the CRT?

1. how the test was tried out in a pilot study.
2. how the test items were revised after being tried out in the pilot study.
3. how item analysis data from the pilot study printout was used.
4. how the test items were arranged sequentially for the final CRT.
5. how validity was increased from pilot study results.
6. how reliability was attained be it test/retest, split half, and/or alternate forms.
7. how balance in the curriculum was determined so that test items are adequate in scope numerically to assess achievement in geography.
8. how the subject matter in geography reflects higher levels of cognition such as factual recall, comprehension, application, analysis, synthesis, and evaluation (See Bloom, 1971).
9. how the geography curriculum may be improved through using test results for diagnosis and remediation.

10. how the state used the CRT test results such as through report cards, increased or reduced school funding, or school bankruptcy laws.

CRTs need to be evaluated and revised as necessary. No test is perfect and each needs to do a better job of assessing student achievement. Based on test results, the geography teacher might well do a better job of teaching.

## Standardized Testing

Selected states use standardized achievement tests to measure student achievement. Standardized tests need to have high validity and reliability data, generally provided for in the manual suction of the to be administered test. Standardized tests usually do not have an adequate number of multiple choice items pertaining to geography. The scope of test items needs to be broad so that it can measure needed geography learnings of students. If too few test items are being responded to, the chances are that the results will not be adequate to assess learner progress (Ediger, 1998, chapter Eight). What is important to look for when assessing standardized tests?

1. how validity and reliability were determined.
2. how the norms of the test were developed.
3. how many students were involved in taking the pilot study tests.
4. how large the sampling error was when selecting students for the pilot study.
5. how large a standard error of measurement is involved in student test results.
6. how many kinds of standards from test results are provided such as percentiles, grade equivalents, stanines, and standard deviations from the mean.
7. how many forms of the test are available to use in testing.
8. how well these forms, number 7 above, are correlated with each other.
9. how frequently the test has been revised. Each standardized test should be updated to improve validity and quality. Outdated test items need to be eliminated.
10. how the time limits for taking the test, the directions for administering the test with clarity, among other items pertaining to standardizing the test, were ascertained (Ediger, 1999, 233-240).

If CRTs and/or standardized test results are used for high stakes testing, such as determining who receives a high school diploma, it behooves the state to choose the very best assessment instrument possible. The author here recommends multiple assessments be used, not test results only or largely. The theory of multiple intelligences

emphasizes that students possess different intelligences and thus need to use the intelligences possessed in being assessed for achievement and progress in the school setting. Gardner (1993) emphasizes that using paper/pencil tests emphasize verbal intelligence such as reading. He lists seven additional intelligences whereby learners may reveal what has been learned. A student may also show what has been learned, in any unit of academic study, through art products, dramatizations, individual endeavors, cooperative learning, and logical thinking, among others. Thus, a variety of evaluation techniques should be used to ascertain student achievement in the geography curriculum.

Too frequently, CRTs and standardized tests use multiple choice items only, for students to take. Thus the lowest level of cognition is being emphasized in testing such as in the following example:

The capitol city of Syria is

a) Amman
b) Cairo
c) Damascus
d) Baghdad.

The geography curriculum will stress students learning selected facts, such as in the above named multiple choice test item in which Damascus is the capitol city of Syria. However, the geography teacher needs to set higher expectations for students.

## Teacher Written Test Items

Teacher written test items may well measure cognitive achievement in geography above that of factual knowledge or recall of information. Consider the following essay item:

1. state in your own words why the Holy Land is important to both Arabs and Jews. This essay test item emphasizes the level of comprehension. Students then are to put into their very own words what has been read, perhaps from the basal text. The same would be true of the next test item:

2. say orally some of the major ideas contained in the Koran and the Talmud which were mentioned in the video-tape just viewed.

The next two items in essay form pertain to application, a higher cognitive level than comprehension:

1. draw a map of the Middle East and place the following nations therein: Egypt, Israel and the West Bank, Jordan, Syria, Iraq, and Iran.

2. write a letter to a pen pal and ask for information about his/her nation being studied in our class, by using e- mail.

Information studied in class is being used in these two test items.

The next higher level of cognition is analysis which are referred to in the following two test items:

1. What are three differences between Palestinian Arabs and Israel, on who has rights to the land of Palestine?
2. How are the uses for water different when comparing the Dead Sea and the Sea of Galilee?

Above the level of analysis is synthesis in which the information needed is put back together again, with selected modifications. The following two test items stress synthesis:

1. What is the importance historically of Mount Gerizim and Mount Ebal in the Holy Land?
2. How are the city of Jericho and the Dead Sea area alike in terms of climate and elevation?

Evaluation is the highest level of cognition in which the worth or value of an object, item, or statement is assessed. The following are examples of evaluation:

1. Based on the history of the Holy Land with he Arabs having had control of this land from 636 AD to owning parts of it today including the West Bank, whereas Israel having had control from 1200 BC to 63 BC and 1948 when their statehood was proclaimed, how can the differences between opposing sides be ironed out? This is indeed a complex question which requires evaluation in terms of pros and cons for working out differences which has been impossible to do at the preset time. But knowledgeable conjectures need to be made and statements for each side evaluated; sitting on the sidelines is not worthwhile in this dispute. Agreements need to be reached, agreeable to both sides, in the dispute (Ediger, 1998, 52 pp).
2. Evaluate the following statements in the Palestinian Arab/Israeli dispute:

Side A is terroristic and does not want peace. They kill and maim for the pleasure of doing so. Side A only knows force as the answer to problems. They are unreasonable, violent, tricky, blood thirsty, and do not respect human life. These people would do anything to get what they want, including indiscriminate killing of civilians.

Side B is peace loving and wants the best for everyone. They have always shown to be reasonable, nonviolent, honest, decent, and respectful of all human beings. Side B always looks out for the other person, regardless of nationality.

Here, students may also assess the United States in terms of positive and negative ways in having dealt with other nations. Evaluation is a complex level of cognition and requires much background information. What are the implications for teachers when using the highest levels of cognition in teaching students?

1. make certain that students are ready for the next higher level of cognition in teaching and learning situations. Readiness, not haste, is important.

2. attempt to engage students actively in ongoing lessons and units of study.

3. assist students to perceive purpose or reasons for studying subject matter content.

4. secure the interests of students in teaching and learning situations.

5. motivate students intrinsically in wanting to achieve and progress (.Ediger, 2000, 155-161)

Peers may assist each other in assessing the quality of teaching when using the above five enumerated items in guiding students to higher levels of cognition. A five point Lickert Scale may be used with rubric guidelines. The rubric needs to provide information on each of the different levels of cognition indicating what students are to achieve and do.

Essay test items (See Ramachandrachar, 2000) need to be

1. written clearly and accurately. Students should not have to wonder what is wanted by the test writer.

2. adequately delimited. An essay test item should not be so broadly stated that an entire book may be written for the answer nor too narrow whereby a fact is wanted. Factual information may be placed into a multiple choice test item.

3. written with a developmentally appropriate reading vocabulary for test takers (Ediger, 1999, 7-15).

4. problem solving situations and incorporate critical and creative thinking.

5. orderly in nature whereby students organize information with coherent paragraphs. Each paragraph needs to contain a topic sentence and paragraphs are to be arranged sequentially.

6. concerned about the mechanics of writing such as correct spelling, punctuation, grammar, indentation of paragraphs, and proper use of capital letters.

7. concerned with what has been taught (validity). Thus, each essay item is aligned with course objectives; learning opportunities provided students relate directly to these objectives.

8. reliable with interscorer reliability.

9. assessed with quality criteria listed on a rubric. Students will be at different levels of achievement within a class. Each student should achieve upward continuously from where he/she is presently to what is possible with optimal progress.

10. used in a manner whereby students receive feedback from responses made to the essay test items. Testing is a learning situation

and is not to be used to punish students nor to make unfavorable comparisons among learners.

## Using Portfolios in Geography

Each student with teacher guidance may develop a portfolio to show progress and achievement. The purpose for developing a portfolio is to indicate to the student, the teacher, parents, and other interested persons how well the learner is doing. The scope of the portfolio is much greater than that of standardized tests and CRTs. Thus, the portfolio contains sequential products and processes of a student's work in the classroom. The actual work of students is shown in an individual's portfolio. A single numeral such as a percentile tells very little abut a student's achievement. The student with teacher guidance may selected the following items for his/her geography portfolio:

1. book reports, outlines, summaries, narrative, expository, and creative written works.
2. art products such as murals, drawings, diagrams, and other illustrations developed of what was studied in units pertaining to geography.
3. construction activities including dioramas, models, and replicas as they enlarge learner understanding of daily lessons taught in geography. Snapshots may substitute for objects made which are too large for a portfolio.
4. cassette recordings of oral communication activities such as student participation in creative and formal dramatizations, as well as in reader's theater.
5. a video-tape showing the student's participation and achievement in committee endeavors.
6. self assessment by the student, using reliable criteria, to ascertain achievement.
7. teacher assessment of the student's progress in geography (Ediger,1997- 1998, 56-60) .

## References


Bloom, Benjamin (1971), Handbook on Formative and Summative Evaluation of Student Learning. New York: Mc Graw Hill.

Ediger, Marlow (1998), Social Studies Curriculum in the Elementary School. Kirksville, Missouri: Simpson Publishing Company, Chapter Eight.

Ediger, Marlow (1999), "Appraising Learner Progress in the Social Studies," The College Student Journal, 33 (2), 233-240.

Ediger, Marlow (1998), The Holy Land. Kirksville, Missouri: Simpson Publishing Company, 52 pp.

Ediger, Marlow (2000), "The Principal and Evaluation of Student Achievement," Journal of Instructional Psychology, 27 (3), 155-161.

Ediger, Marlow (1999), :Reading and Vocabulary Development," Journal of Instructional Psychology, 26 (1), 7-15.

Ediger, Marlow (1997-1998), "Portfolios and the Social Studies," Journal of the Illinois Council for the Social Studies,56-60.

Gardner, Howard (1993), Multiple Intelligences: Theory into Practice. New York: Basic Books.

Ramachandrachar, K. (2000), Educational Testing, Diagnosis, and Remediation. Bangalore, India: Department of State Educational Research and Training, Part One.

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